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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
|-----------------|-------------|----------------------|---------------------|

09/600,203 08/09/00 OGATA

S 13409.1USWO

EXAMINER

023552
MERCHANT & GOULD
P O BOX 2903
MINNEAPOLIS MN 55402-0903

IM22/0625

SAVAGE, M

ART UNIT

PAPER NUMBER

1723

DATE MAILED:

06/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/600,203

Applicant(s)

OGATA ET AL.

Examiner

Matthew O. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 8.

- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 4-45811 in view of EP 466,381.

With respect to claim 1, JP '811 discloses a strip, non-woven fabric 3 wound around a perforated cylinder 4 in twill form (see FIGS. 1 and 2). As best understood, JP '811 fails to specify long thermoplastic fibers with fiber intersections that are adhered. EP '381 discloses filter media including long thermoplastic fibers with fiber intersections that are adhered and suggests that such an arrangement has stabilized filtration properties. It would have been obvious to have modified the JP '811 filter so as to have included long thermoplastic fibers with fiber intersections that were adhered in order to provide a filter media having stabilized filtration properties.

Regarding claim 2, EP '381 discloses a thermoplastic adhesive composite fibers including a low melting point resin and a high melting point resin with a difference in melting point be 10 degrees C or more (see lines 39-44 of col.6).

Concerning claim 3, EP '381 discloses the low melting point resin as being linear low density polyethylene and the high melting point resin as being polypropylene (see lines 39-44 of col.6).

As to claim 4, EP '381 discloses the fabric as being bonded by thermal compression (e.g., via heat embossing process or a calendering process) obviously

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carried out by means of a heat embossing roll as well known in the art (see lines 50-52 of col. 4).

Regarding claim 5, EP '381 discloses the fiber intersections of the fabric as being bonded by a hot blast (e.g., via a hot air process, see lines 50-52 of col. 4).

Concerning claim 6, JP '811 discloses the strip as being twisted (see the abstract).

Regarding claim 10, JP '811 and EP '381 fail to specify the recited void rate, however, such a modification would have been obvious in order to optimize the filter for a particular application.

Concerning claim 11, JP '811 and EP '381 fail to specify the slit width and product of the slit width and basis weight, however, such a modification would have been obvious in order to optimize the filter for a particular application.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over over JP 4-45811 in view of EP 466,381 as applied to claim 1 above, and further in view of JP 1-115423.

With respect to claim 7, JP '811 and EP '381 fail to specify pleated matter having 4-50 pleats. JP '423 discloses the concept of pleating an analogous non woven strip 3 so as to have 4-50 pleats (see FIG.6) and suggests that such an arrangement increases the strength and dimensional stability of the filter media (see the abstract). It would have been obvious to have modified the combination suggested by JP '811 and EP '381 so

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as to have included pleated matter as suggested by JP '423 in order to increase the strength and dimensional stability of the filter.

Regarding claim 8, JP '423 discloses pleats that are non-parallel because the pleats extend along non-linear paths.

Concerning claim 9, JP '811 and EP '381 fails to specify the recited void rate, however, such a modification would have been obvious in order to optimize the filter for a particular application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Savage whose telephone number is (703) 308-3854. This examiner can normally be reached from Monday through Friday from 7:00 AM to 3:30 PM.

M. Savage
Matthew O. Savage
Primary Examiner
Art Unit 1723

M. Savage
February 23, 2001